Condensed Matter Physics

Experimental methods

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ELTE

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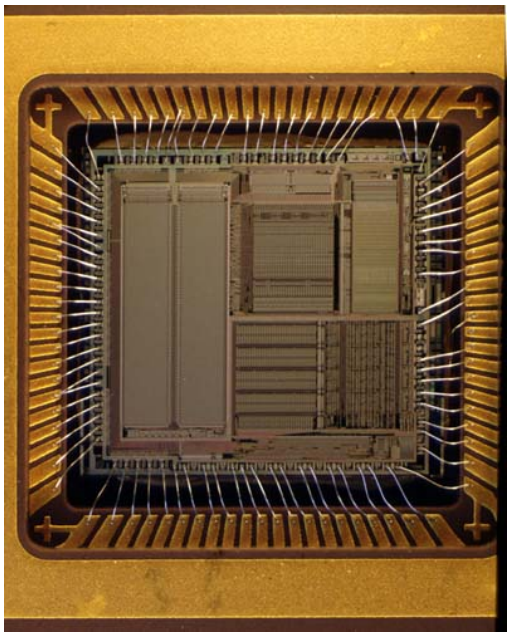
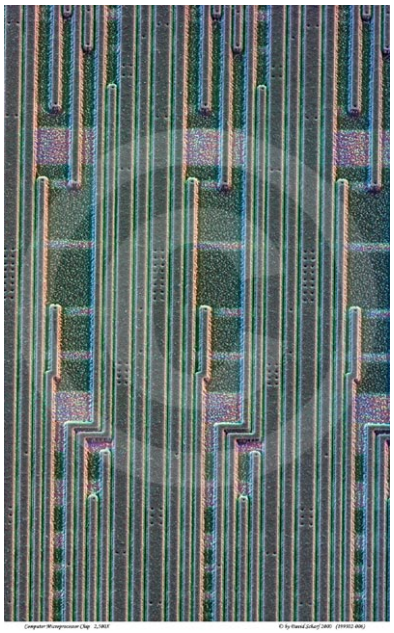
Processor



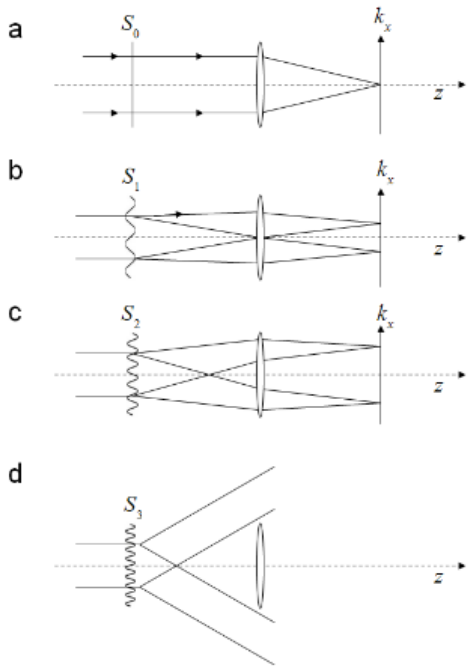
Processor



Resolution of microscope

diffraction of optical grid

$$\sin\alpha = \frac{\lambda}{d}$$

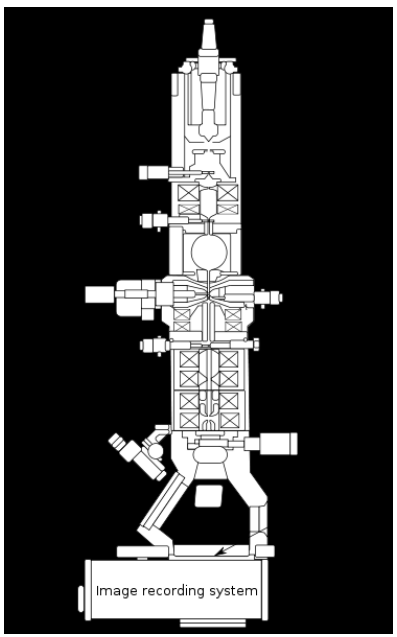


fény esetén $d \approx 1\mu m$

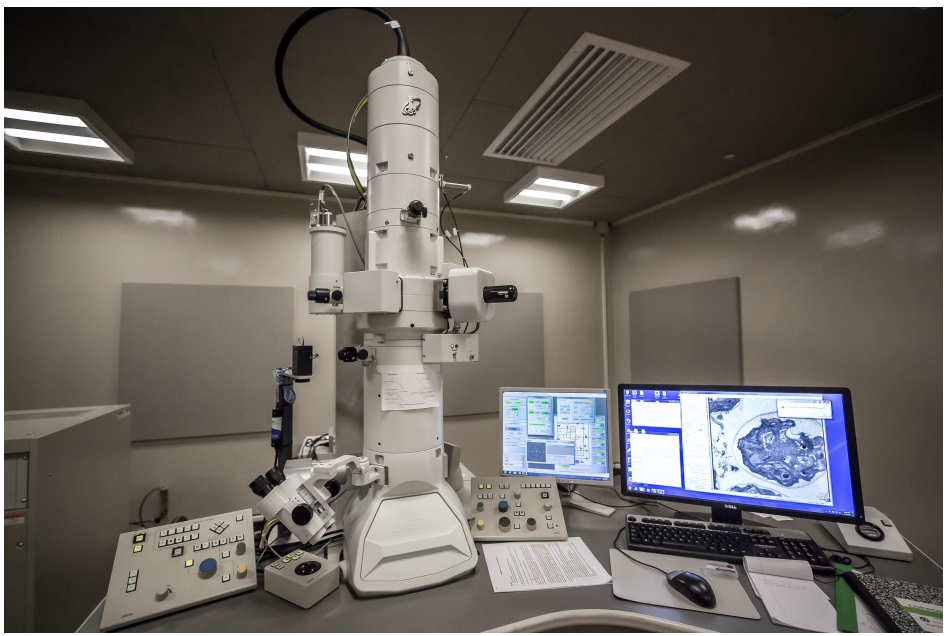
Electron microscope

Electron

$$E = \frac{h^2}{2m\lambda^2}, \quad \lambda = \sqrt{\frac{h^2}{2mE}}$$

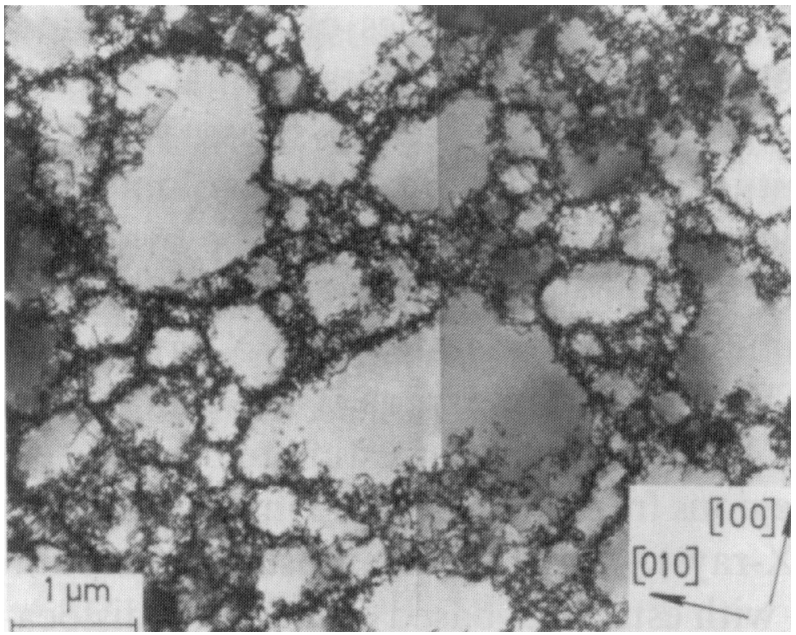


Schematic picture

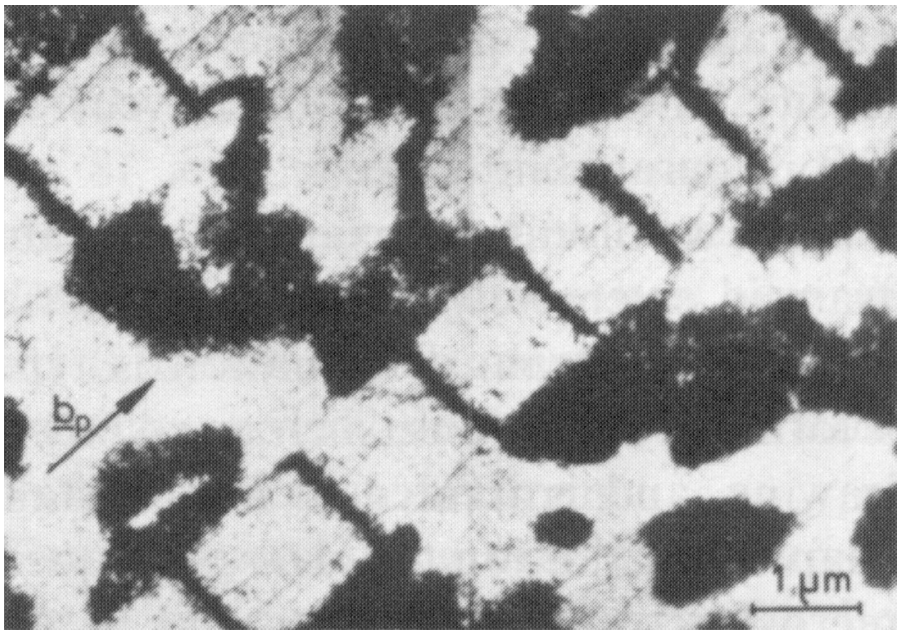


300 kV TEM

Microstructure

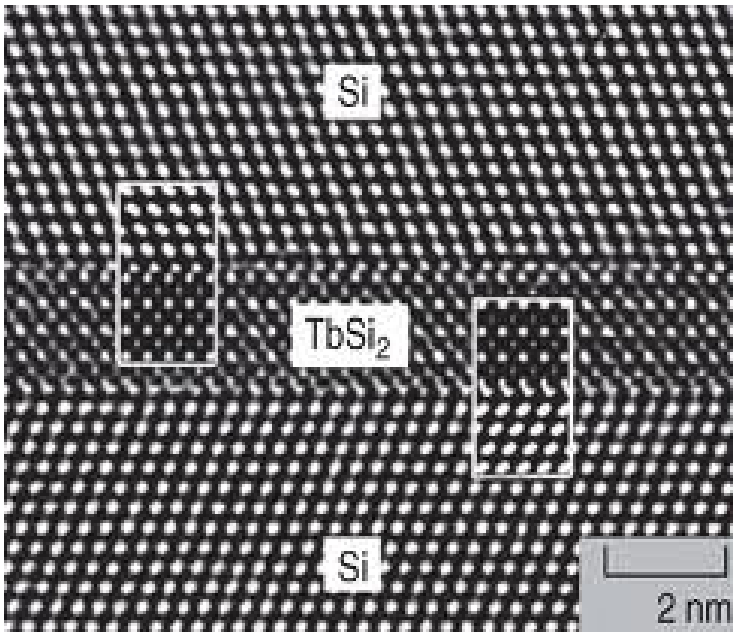


Cell structure

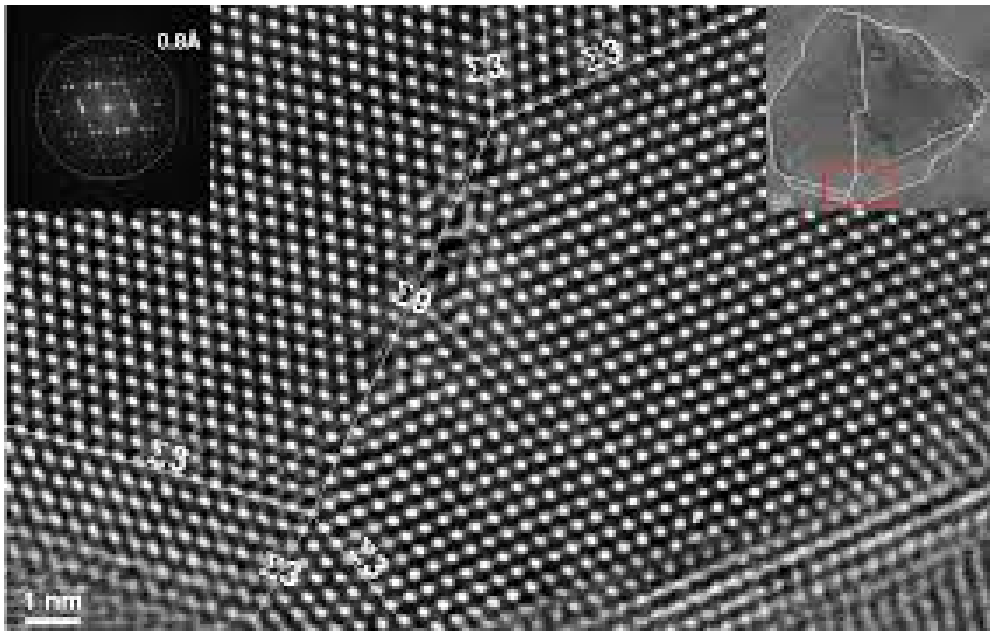


PSB structure

Atomic resolution

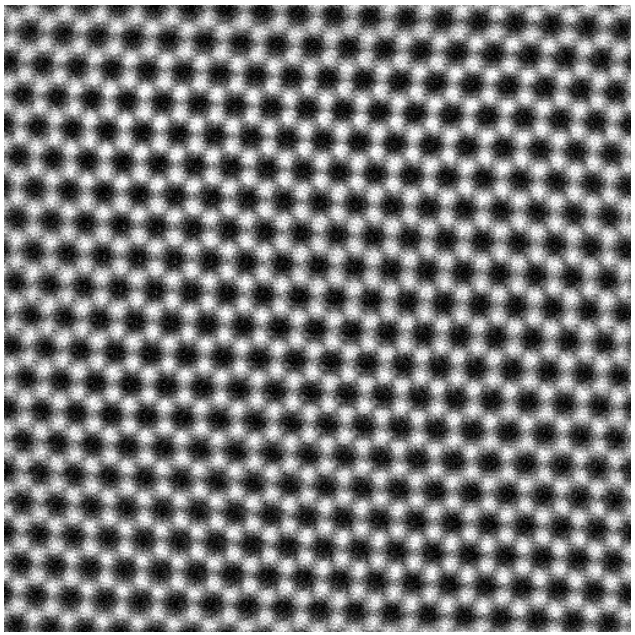


Multilayer

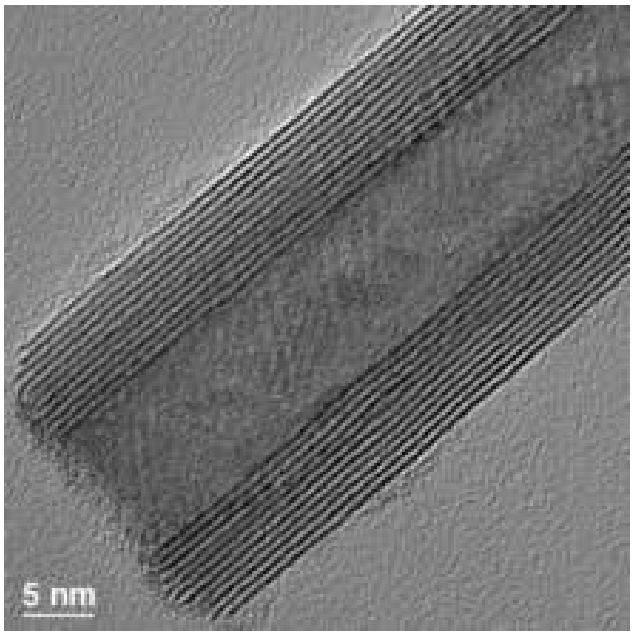


Grain boundary

C nanostructures

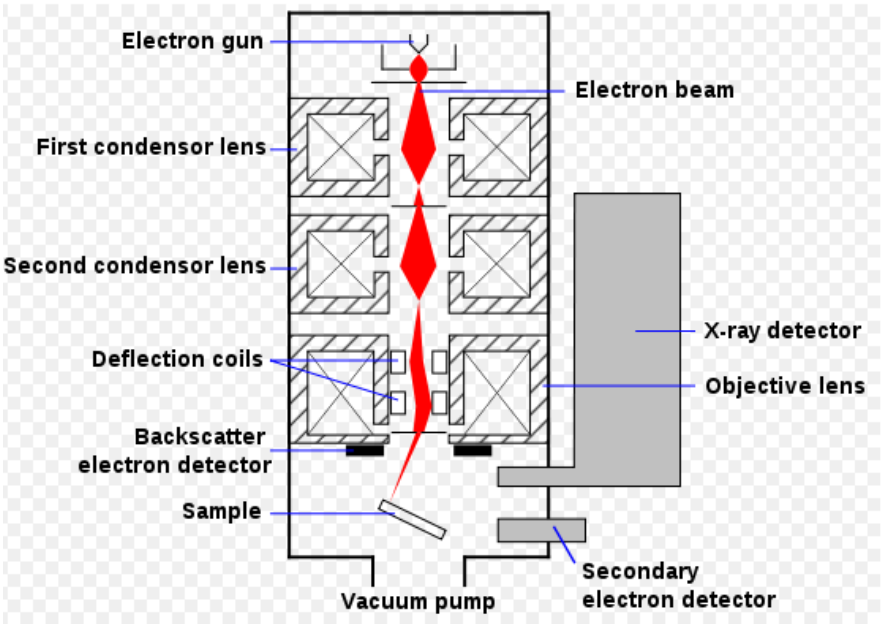


graphene



nanowire

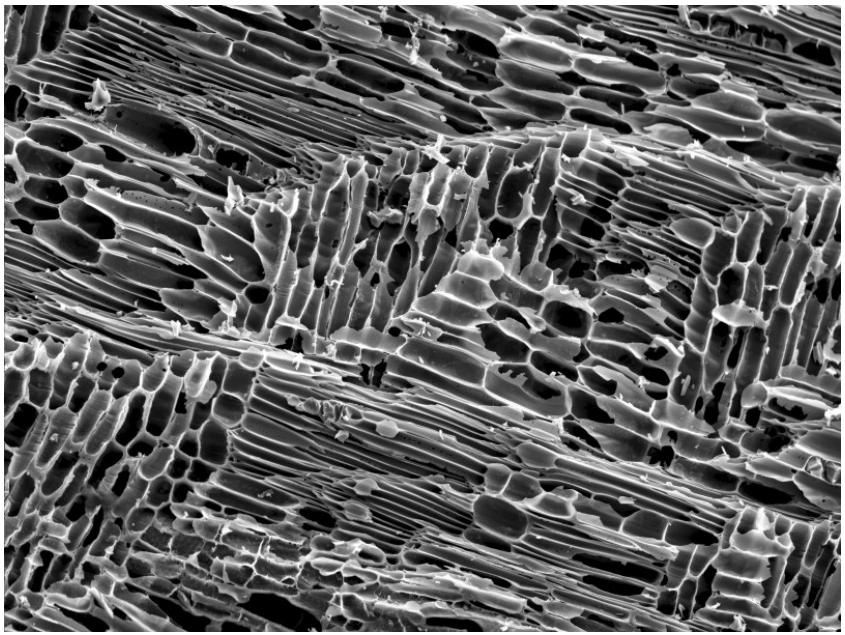
SEM



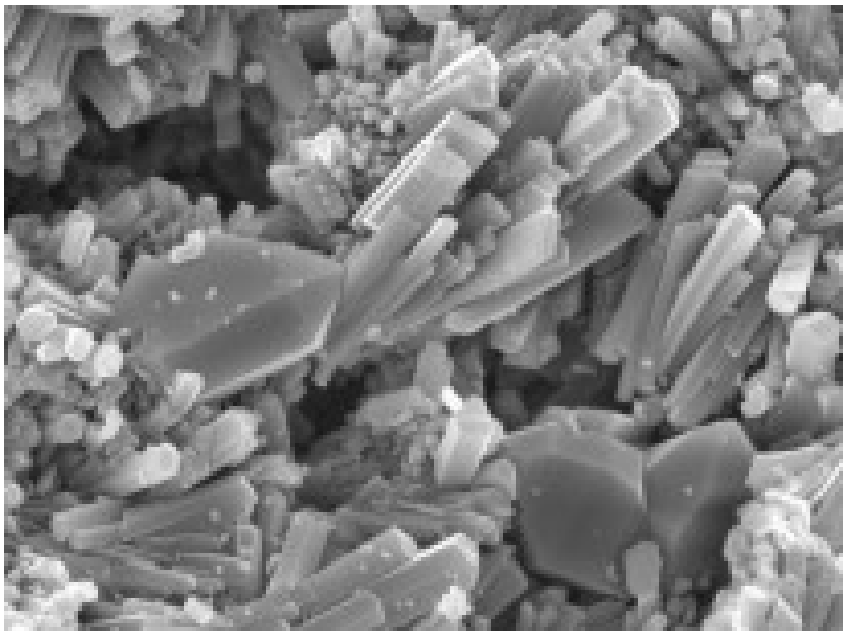
SEM

ELTE SEM lab

SEM pictures

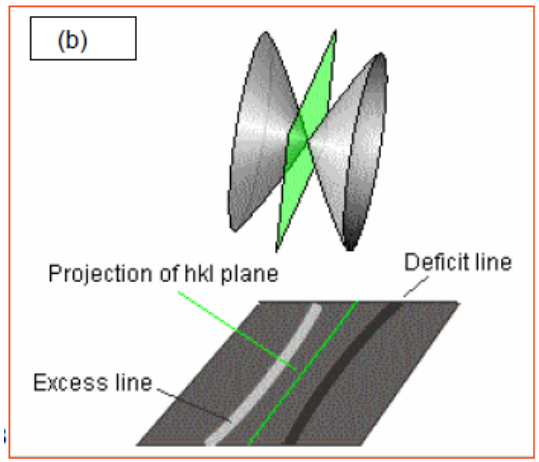


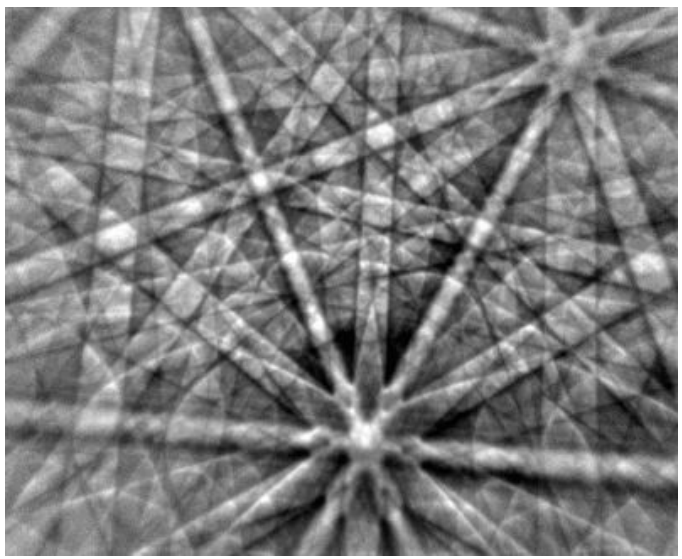
rubber



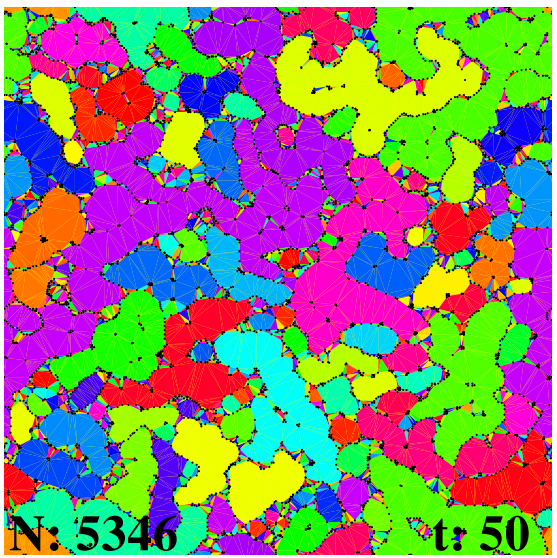
quartz

EBSD



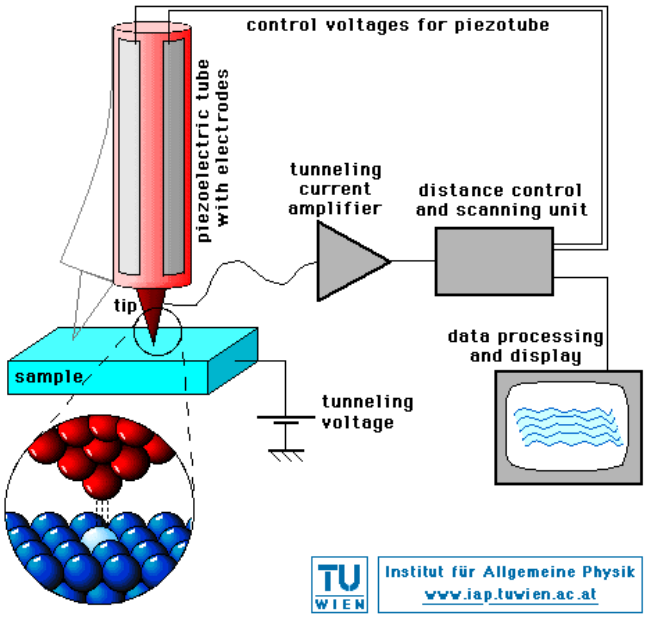


EBSD picture



grains

AFM/STM


control voltages for piezotube
piezoelectric tube with electrodes
tunneling current amplifier
distance control and scanning unit
tip
sample
data processing and display
tunneling voltage
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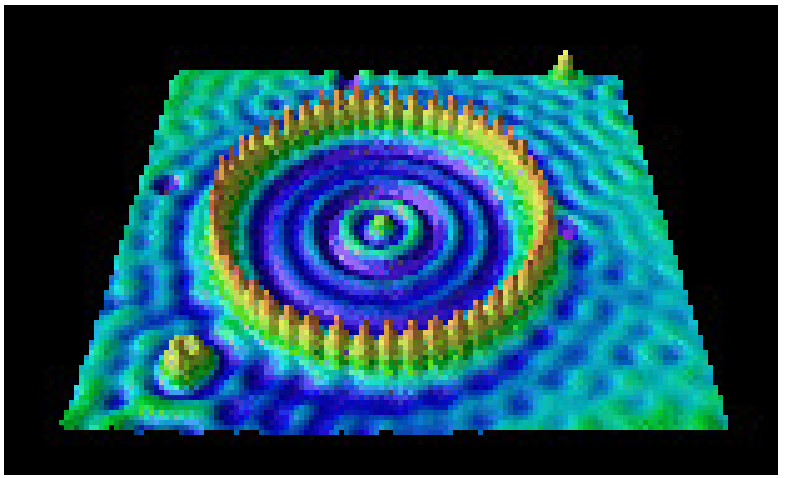
AFM



AFM pictures